1. A process to control line width after etching, comprising:

providing a mask generation data file, including data on lines having a first minimum width;

modifying the data file whereby said first minimum width is increased by an amount;

from said modified file, forming a reticle;

coating a semiconductor wafer, having a top layer, with photoresist and then exposing said photoresist to an image of said reticle and then developing the photoresist to form a photoresist image;

inspecting said photoresist image thereby determining a second minimum width;

based on the difference between the first and second minimum widths, generating a control sequence for photoresist trimming;

then trimming the photoresist image according to said control sequence; and

then etching said top layer, using the trimmed photoresist image as a mask.

2. The process of claim 1 wherein said first minimum width is between about 0.14 and 0.18 microns.

3. The process of claim 1 wherein said second minimum width is between about 0.12 and 0.16 microns.

4. The process of claim 1 wherein the amount by which the first minimum width is increased is between about 0.01 and 0.03 microns.

5. The process of claim 1 wherein said trimming control sequence further comprises using a mixture of chlorine and oxygen gases, in a conductive or inductive etcher, at a power level between about 200 and 300 watts, for between about 20 and 60 seconds.

6. The process of claim 1 wherein the coating of photoresist has a thickness between about 0.3 and 0.5 microns.

7. A process to reduce edge roughness of lines in a photoresist pattern, comprising:

providing a mask generation data file, including data on lines having a first minimum width;

modifying the data file whereby said first minimum width is increased by an amount;

from said modified file, forming a reticle;

coating a semiconductor wafer, having a top layer, with photoresist and then exposing said photoresist to an image of said reticle and then developing the photoresist to form a photoresist image of the lines;

inspecting said photoresist image thereby determining a second minimum width;

based on the difference between the first and second minimum widths, generating a control sequence for photoresist trimming; and

then trimming the photoresist image according to said control sequence , thereby reducing edge roughness of the lines.

8. The process of claim 7 wherein the lines in the photoresist image, prior to trimming,

have an edge roughness between about 15 and 25 nm.

9. The process of claim 7 wherein the lines in the photoresist image, after trimming, have an edge roughness between about 10 and 15 nm.

10. The process of claim 7 wherein said trimming control sequence further comprises using a mixture of chlorine and oxygen gases, in a conductive or inductive etcher, at a power level between about 200 and 300 watts, for between about 20 and 60 seconds.

11. A process for width control of a polysilicon gate, comprising:

providing a mask generation data file, including data on lines having a first minimum width;

modifying the data file whereby said first minimum width is increased by an amount;

from said modified file, forming a reticle;

providing a semiconductor wafer having a top layer of polysilicon

depositing a layer of a hard mask material on said polysilicon layer;

coating the hard mask layer with photoresist and then exposing said photoresist to an image of said reticle and then developing the photoresist to form a photoresist image;

inspecting said photoresist image thereby determining a second minimum width;

based on the difference between the first and second minimum widths, generating a control sequence for photoresist trimming;

then trimming the photoresist image according to said control sequence;

then etching said hard mask layer, using the trimmed photoresist image as a mask, thereby forming a hard mask; and

then etching the polysilicon layer to form a gate.

12. The process of claim 11 wherein the amount by which the first minimum width is increased is between about 0.01 and 0.03 microns.

13. The process of claim 11 wherein said trimming control sequence further comprises using a mixture of chlorine and oxygen gases, in a conductive or inductive etcher, at a power level between about 200 and 300 watts, for between about 20 and 60 seconds.

14. The process of claim 11 wherein the polysilicon layer has a thickness between about 0.15 and 0.35 microns.

15. The process of claim 11 wherein the hard mask layer is selected from the group consisting of silicon oxide, silicon nitride, and silicon oxynitride.

16. The process of claim 11 wherein the hard mask layer has a thickness between about 0.04 and 0.08 microns.

17. A process to reduce edge roughness of a semiconductor gate line, having a first width, comprising:

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providing a mask generation data file, including data on said first the gate width;

modifying the data file whereby said first line width is increased by an amount;

from said modified file, forming a reticle;

providing a semiconductor wafer having a top layer of polysilicon

depositing a layer of a hard mask material on said polysilicon layer;

coating the hard mask layer with photoresist and then exposing said photoresist to an image of said reticle and then developing the photoresist to form a photoresist image;

inspecting said photoresist image thereby determining a second gate width;

based on the difference between the first and second gate widths, generating a control sequence for photoresist trimming;

then trimming the photoresist image according to said control sequence;

then etching said hard mask layer, using the trimmed photoresist image as a mask, thereby forming a hard mask; and

then etching the polysilicon layer to form a gate having reduced edge roughness.

18. The process of claim 17 wherein the lines in the photoresist image, prior to trimming, have an edge roughness between about 15 and 25 nm.

19. The process of claim 17 wherein the lines in the photoresist image, after trimming, have an edge roughness between about 10 and 15 nm.

20. The process of claim 17 wherein said trimming control sequence further comprises

using a mixture of chlorine and oxygen gases, in a conductive or inductive etcher, at a power level between about 200 and 300 watts, for between about 20 and 60 seconds.